C8650-4

Volume 63, Number 11
November 1985

09A35 1984293 W 4 1967
SUITE 800 COPY # 2
CONGRESSIONAL INFO SERVIC D
4520 EAST WEST HWY
BETHESDA MD 20814-

Electric Light & Power

THE NEWS MAGAZINE OF ELECTRIC UTILITY MANAGEMENT AND TECHNOLOGY

©TECHNICAL PUBLISHING

SCE&G is 1985 Utility of the Year

BARRINGTON, IL—South Carolina Electric & Gas Co. has been selected as the 1985 Electric Utility of the Year by *Electric Light & Power*. Announcement of the company's selection to be the 17th recipient of the annual award was made by Robert A. Lincicome, *EL&P* Editor-in-Chief.

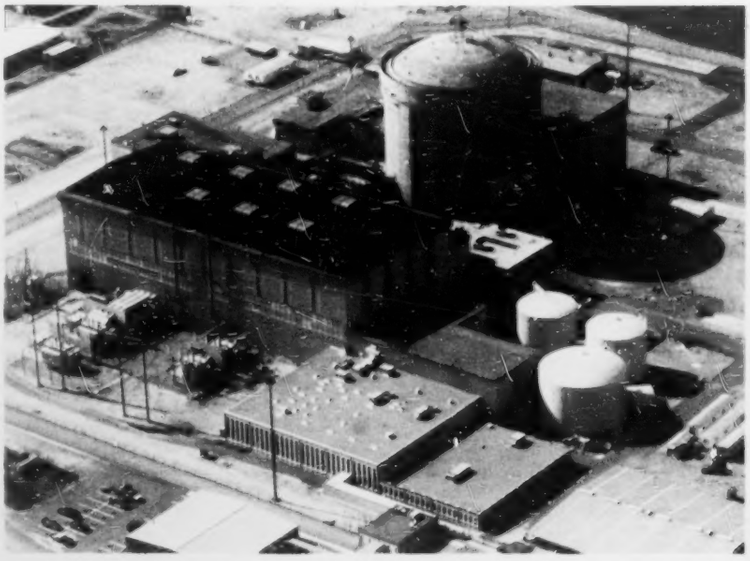
Lincicome said the utility was chosen for the award because of its strong performances on behalf of its shareholders, customers and employees and for exemplary corporate citizenship in its service area.

A profile of SCE&G begins on page 11

Specifically, SCE&G was selected for a combination of unusually strong performances. The utility completed its V.C. Summer nuclear plant and was able to get it into the rate base in 1984. It formed a holding company, Scana Corporation, to provide an umbrella organization to facilitate growth through diversifiction. It formed a subsidiary to take ownership of its Williams station, enabling it to convert the plant to burn coal, qualify for FERC regulation and save customers interest costs amounting to $6-million. It has completed a 129-mile fiber-optic system, the longest in the industry by a substantial margin, with "private carrier" status to allow excess capacity to be sold to outside customers. It is heavily involved in community service activities and has improved customer perceptions of the company over the past two years. The company has received high marks on its commission-mandated management audit for the efficiency of its operations and has been recognized for its productivity improvements.

To top it all off, the company improved its 1984 earnings performance by 33-percent after a strong performance in 1983. Per-share earnings rose to $3.05 and their quality was strengthened because AFUDC was reduced to only about 12 percent. Moreover, its stock rose to 122 percent of book value at year-end and to 140-percent of book last June 30.

An additional strong factor in the company's selection was its broad range of customer assistance and development programs, including weatherization of needy customers' homes, business/industry training of disadvantaged minorities, distribution to needy customers of wood cut from rights-of-way for heating and cooking, counseling to explain assistance alternatives to needy customers and both direct and indirect financial support for worthwhile social, health and educational programs.



One key to the financial success of South Carolina Electric & Gas was completion of its 900-MW V.C.Summer nuclear plant and getting it into the rate base in 1984. SCE&G is the 17th investor-owned utility to be selected to receive the annual Electric Utility of the Year Award.

Supreme Court clears way; GPUN restarts TMI-1 reactor

MIDDLETOWN, PA—It finally happened on October 3.

After receiving U.S. Supreme Court approval, GPU Nuclear returned the undamaged Three Mile Island Unit 1 to service for the first time since it was shut down for refueling Feb. 17, 1979.

The plant is in the process of a gradual full-power ascension that the utility estimates will take three months. TMI-1 began producing power for the utility's system October 9.

"The plant has been performing very well," GPU Nuclear President and Chief Executive Officer Philip R. Clark told a news conference the morning of startup. "We are very pleased with the progress of startup at this point. Everything has been going smoothly. Our instructions to the operating crews have been to proceed deliberately and carefully, placing primary assurance on doing things safely."

Nuclear Regulatory Commission inspectors and a nuclear engineer from Pennsylvania's state government monitored the unit's startup.

The Supreme Court became involved in the matter when the citizen's group protesting restart of the unit asked that a federal appeals court stay on restart be extended.

Three Mile Island Alert had said more hearings on safety and management competence issues needed to be held before startup.

Court vote

By an 8-1 vote, with Justice William Brennan dissenting, the Court lifted an appellate court stay on restart. Earlier, Brennan had stopped TMI-1's return to service to allow interested parties to file arguments for restart.

Last May the NRC voted to allow the plant to restart, but the 3rd U.S. Circuit Court of Appeals placed a stay on the order. TMI Alert, the Union of Concerned Scientists and Pennsylvania Gov. Dick Thornburgh asked that restart be delayed until further public hearings could be held.

With the Court's ruling, Thornburgh said he has decided to accept the unit's return to power.

"I believe the only responsible course now is to work with the plant operator, the NRC and other officials to ensure that the plant is operated under the tightest possible supervision and stringent standards of safety," said the governor in a prepared statement.

Thornburgh pointed out that he was never opposed to restart on an ideological basis and that he believes

Continued on page 7

Tax reform may mean lower liabilities for utilities, says EIA

WASHINGTON, D.C.—Tax liabilities of electric utilities will decline significantly if President Reagan's tax reform proposal is passed, according to a recent Energy Information Administration study.

EIA said the present value of tax liabilities over the 1986-1995 period would be $33.9 billion, compared to $66.3 billion under current law.

The report, *Analysis of the Impacts of the President's Tax Proposal on Major Sectors of the Energy Industry*, says that the tax liabilities of utilities will be lower each year because the corporate tax rate will be lowered.

President Reagan has proposed lowering the corporate tax rate to 33 percent for taxable income in excess of $75,000. The current tax rate reaches a maximum of 46 percent on taxable income greater than $100,000. Changes in corporate and individual rates would take effect July 1, 1986.

Consumers would benefit from the decreased tax liabilities. EIA projects that electricity prices would be lowered by approximately four percent.

The report noted that aggregate electricity demand is expected to increase about one percent in relation to the price decline. EIA said the demand change would be "too small an increase to significantly change requirements for new generation capacity."

Under Reagan's proposal, the current 10 percent investment tax credit would be eliminated. EIA said this would result in lower cash flow for utilities.

EIA said total cash flow would be reduced eight percent or $15.6 billion.

"As a consequence," reported the study, "utilities are estimated to be required to raise an additional $8.1 billion in debt and $8.5 billion in equity over the 1986-1995 period, a 52-percent increase in debt and equity compared to the current tax law, and an amount equivalent to nine percent of proprietary capital in 1995."

Although cash flow would initially be reduced, EIA pointed out that in later years, customers would pay higher electricity prices as they were charged for equipment purchased without the benefit of the investment tax credit.

"Cash flow for almost all utilities would be reduced by the proposed tax changes," revealed the study. "The combined impact of eliminating the investment tax credit, recapturing depreciation, and reducing the marginal corporate tax rate would dominate the effects on cash flow."

Changes

The tax reform package would:

- change the current depreciation base and rate schedules to account for inflation and for different rates of economic depreciation.
- institute depreciation recapture to

Continued on page 6

News Briefs

DON MINNER, Associate Editor

● **GPU Nuclear Corp.** announced in September that an independent investigation of leak rate testing before March, 1979 at Three Mile Island Unit 2 shows the testing procedure was defective. Conducted by Edwin Stier, a lawyer and former director of the New Jersey Division of Criminal Justice, the investigation was commissioned by GPU Nuclear in January 1984. Metropolitan Edison, the former operator of the plant, pleaded guilty in 1984 to a charge in a 1983 indictment that it failed to have an adequate test to measure TMI-2 leak rates as required by its license. Stier found that the test didn't work because of errors in the computer program and faulty instrumentation. GPU Nuclear said the report discovered that TMI-2 operations department personnel discarded test results. Stier's investigation determined that none of the Met Ed directors or GPU Nuclear directors and officers were to blame. The utility has organized a panel of GPU System operating company executives to assess the behavior and performance of individuals who were involved in the TMI-2 leak rate testing and who presently are employed by the system.

● **GPU Nuclear also** announced that its cleanup of TMI-2 remains on schedule and within its $1 billion budget. As of June 30, the utility said it has spent $561 million on the cleanup. Reactor defueling was supposed to begin in late October.

● **Directors of the Southern Company** voted to increase the company's common stock quarterly dividend three cents to 51 cents a share to stockholders of record Nov. 1. The new dividend, which is a 6.25 percent increase over the previous rate, is equivalent to an annual rate of $2.04 a share.

● **Topeka Group, the diversification subsidiary of Minnesota Power,** signed a letter of intent in September to invest more than $22 million in the preferred stock of Deltona Corp., a Florida-based land development and water utility company. Topeka Group also stated that the transaction involves proposed loans and loan guarantees of up to $6.5 million to Deltona. Topeka already operates water and wastewater treatment facilities in northern and central Florida through its Southern States Utilities subsidiary.

● **Owners of the Seabrook Station** voted in September to go to full-construction funding for the remainder of the year. New Hampshire Yankee said the vote raises project funding from its present level of $5 million per week to $10 million per week in two steps. Full funding of $10 million per week began Oct. 1. "This increase in funding and move to a full-construction level of activity will allow us to keep this job on-schedule and on-budget and to continue our preparations for hot-functional testing," noted New Hampshire Yankee President Edward A. Brown. "In November we will actually produce some electricity with this plant, and I think that will be a clear sign to everyone that this project is in the final stages of completion."

● **UtiliCorp United Inc., parent company of Missouri Public Service** and Kansas Public Service, said it and HNG/InterNorth have signed a definitive agreement under which UtiliCorp will purchase HNG/InterNorth's Peoples Natural Gas Company division. Price of the transaction was not announced. Peoples Natural Gas provides retail distribution services to 300,000 customers in more than 300 communities in five midwestern states. UtiliCorp's President and CEO Richard C. Green said, "We look forward to the addition of the high-quality Peoples operation to UtiliCorp. This acquisition is a major step in our growth strategy, which seeks prudent expansions through mergers or acquisitions."

● **UtiliCorp also** announced the signing of a definitive agreement for the acquisition of electric distribution properties in West Virginia from Virginia Power. UtiliCorp's President Richard Green said the purchase price for West Virginia Power, an operating division of Virginia Power, will be about $20 million. West Virginia Power serves more than 22,000 customers in a 1,500-sq. mile area. It has assets of approximately $20 million and in 1984 reported revenues in excess of $18 million. Because of needed regulatory approvals, UtiliCorp noted the purchase could take several months to complete.

● **Commonwealth Edison** has devised a Jobs Preservation Rate which will provide discounts ranging from 20 to 100 percent of demand charges to qualifying industrial customers. The utility estimates that about 100 of its 600 large industrial customers could qualify for the rate which is subject to approval by the Illinois Commerce Commission. "Large industrial electricity customers tend to be large employers," stated Edison Chairman and President James J. O'Connor. "Our new rate is intended to create new jobs, preserve existing ones, and enhance the total economic development of northern Illinois." To be eligible for the new rate, Edison said a customer must demonstrate a probable maximum demand of at least 5,000-kW in at least nine months of each contract year at its service location. The rate also stipulates that an increase in the customer's business activity must account for the increased kilowatthour use or demand.

● **The Canadian Electrical Association** (CEA) says a new study shows that optimal conservation can reduce Canada's energy consumption by 1.5 to 1.8 percent and peak demand by 3.0 to 3.7 percent. The report, *An Evaluation of the Cost Effectiveness of Electrical Energy Conservation in Canada*, indicates there are substantial opportunities for utility cost savings from conservation and that the greatest potential for savings are from single family dwellings, apartments and appliances. It showed that total utility cost savings could amount to $950 million in 1996 and $1.5 billion per year by 2000.

● **U.S. nuclear capacity will** increase 7.5 percent a year from 1984 to 1990, but then fall to a 1.3 percent yearly increase between 1990 and 1995, projected the Energy Information Administration (EIA) in a new report. EIA predicts that nuclear generation will account for 14.9 percent of the country's total generation in 1985, increase to 19.6 percent by 1990, and then drop to 18.9 percent in 1995. The report, *Commercial Nuclear Power: Prospects for the United States and the World*, assumes that no new nuclear generating units will be ordered in time to operate before the year 2000. Last year, stated the report, 86 U.S. nuclear units produced 13.6 percent of the nation's total electricity generation. According to EIA, 21 nations produced nuclear generated electricity in 1984. The study said foreign commercial nuclear generation rose significantly last year. France and Belgium generate more than half of their electricity from nuclear power and Taiwan and Sweden are expected to shortly reach the same level, found EIA. For a copy of the report, call EIA at (202) 252-8800.

● **The National Electrical Manufacturers Association (NEMA)** "cautiously applauded" President Reagan's recently announced trade policy plan. NEMA President Bernard H. Falk called Reagan's plan "an important first step in restoring America's global competitiveness." He said American industries need opportunity, not protection. While U.S. electric companies buy worldwide, Falk noted that national electric utilities in many other producer nations remain closed. Thus, he said, those nations' electrical manufacturers have a protected home base from which they can attack world markets. "American manufacturers are only looking for the same market access that we offer to the world, and a balance in exchange rates," he stated. "The president's program looks like a strong and sure step in that direction."

● **The five utilities** building the Nine Mile Two nuclear plant near Oswego, NY and the New York Public Service Commission staff have agreed that the cost of the project to be paid by utility consumers should be capped at $4.45 billion, with the currently estimated balance of $900 million to be paid by the co-owners in proportion to their ownership share of the plant. The 91 percent-finished Nine Mile Two is projected to cost a total of $5.35 billion and is scheduled for commercial operation in Oct. 1986. PSC staff representatives and the utilities filed the proposal in mid-September. It has not yet been voted on by the full commission. The Nine Mile Two co-owners said in a statement that their agreement in no way concedes any imprudence but recognizes in part the reality of the regulatory response to the rate impacts of new nuclear facilities. Nine Mile Two is owned by Niagara Mohawk (41%), Long Island Lighting Co. (18%), New York State Electric & Gas Corp. (18%), Rochester Gas & Electric Corp. (14%) and Central Hudson Electric & Gas Corp. (9%). Niagara Mohawk said, "Although the amount to be levied against the companies is large, we feel compelled to accept it because of the benefits to our customers and companies in avoiding lengthy, costly and disruptive proceedings at this stage of the project."

● **Babcock & Wilcox Canada** and Marubeni Corporation of Japan completed a contract in September to supply and install two-400 MW boilers for the Suralaya Power Plant on Java, Indonesia. The demand for electricification on Java grows 20 percent a year.

● **Philadelphia Electric Company** has asked the Pennsylvania Public Utilities Commission for permission to raise its rates 9.4 percent in each of the next three years to recover the costs of its $3.8 billion Limerick-1 nuclear plant. Under the phase-in plan, PE's revenues would increase $224 million each year. The utility said the portion of the total amount ultimately approved by the PUC but not billed to customers during the first two years, will be recovered over a three year period beginning June 1989.

● **Atlantic Electric** filed a request with the New Jersey Board of Public Utilities for a $37 million decrease in its Energy Adjustment and Hotel-Casino Service Adjustment clauses. The utility said monthly residential bills would decrease by 3.5 percent to 6.4 percent according to how much electricity a customer uses. "Our nuclear power units are performing better than they have in years past, so we haven't had to buy as much oil to generate electricty," explained Senior Vice President of Planning and Rates Brian Parent. "And we expect continued good production from our coal-fired units as well."

In This Issue

Editorial 4
Calendar 9
South Carolina Electric & Gas is Utility of the Year. 11
Utilities are buying fluid bed combustion systems.**G** 24
The transmission link under the English Channel has been finished.**TD** 40
A sulfur dioxide scrubber's operating problems are solved by converting it to gypsum production, a salable byproduct.**G** 42
New Products 51
New Literature 54
Personnel 58
Readers' Service 59
Regulatory Review 62
Management Methods 66

EL&P readers whose responsibilities include both Generation and Transmission/Distribution receive both technology sections. Other readers receive the technology section that applies to their respective area of responsibility. The Generation edition is indicated by a single dot (•) in the upper right corner of page 1; the T/D edition carries two dots (••). All readers receive EL&P's industry news section.

Astrotech subsidiary wants to be electric utility in space

PITTSBURGH—Can electricity be generated and transmitted in space?

That's what Astrotech International Corporation's subsidiary, Space Shuttle of America Corp., wants to know. The Pittsburgh-based firm has hired Arthur D. Little, Inc., to conduct a study exploring the means of generating, transmitting, converting and storing power in space.

"We want to operate as an electric utility in space," Space Shuttle of America President Don Stitt told *EL&P*.

He hopes to have a test power generating unit in space in approximately three years. Stitt said it probably would be tethered to one of NASA's shuttles and would be capable of producing about 7-1/2-kW.

Stitt expects that the first units will use some form of solar array panels to generate electricity.

Space customers

Customers for the firm's power could be the space shuttle, low-earth orbit space stations, free-flying platforms and strategic defense facilities.

Stitt said the power units "could extend the life of the space shuttle from seven days to two weeks."

The idea, he explained, is to place the units into the same orbit as the stations and shuttle—between 100 and 200 miles above the earth's surface. The electricity would then be transmitted by possibly microwave or laser technology.

He predicts that the first free-flying, commerical unit will produce between 12 and 25-kW. He hopes to eventually put into orbit a power station capable of generating 75 to 100-kW.

The A.D. Little study, which should be complete in the first quarter of 1986, will evaluate the technical aspects of space power, costs, potential applications for government and commerical users, and regulatory and legal issues.

Space Shuttle of America says the concept of industrial parks in space is moving toward realization, because of NASA's recent approval for building the first space station. It will be the hub of an industrial park, which will include orbiting satellites for experiments and development of products.

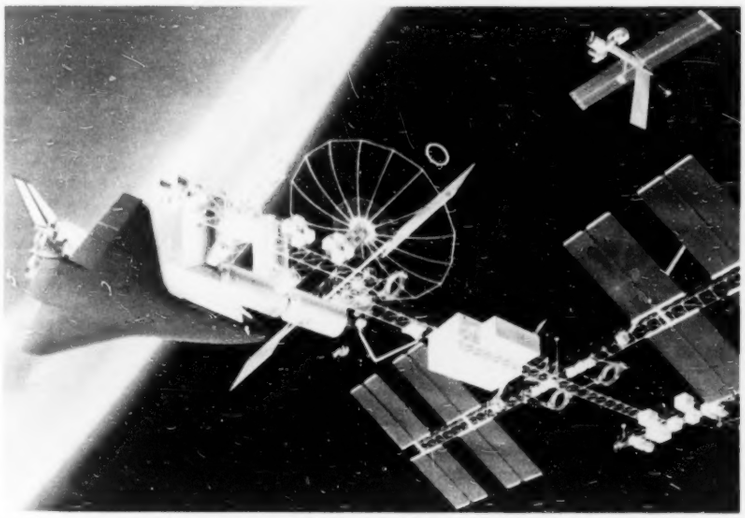
Willard F. Rockwell, Jr., Astrotech chairman and chief executive officer, called the study "the link necessary to move from the role of space traveller to space resident."

Dr. Peter E. Glaser, Little's vice president of advanced technologies will be overseeing the study.

"The space station will be the first piece of a space industrial park that will allow a gradual buildup of commercial and research facilities in low-earth orbit. These facilities will provide the infrastructure for scientific investigations and product manufacturing," explained Glaser. "The critical dimension of this complex is a reliable power source. That is what we are studying."

Glaser said he expects that opportunities for services in support of the space industrial park to constitute a business exceeding $10 billion.

Stitt said Space Shuttle of America will not build the power units.



An artist's rendering of what a future space staion might look like. Space Shuttle Corp. of America has hired Arthur D. Little, Inc. to conduct a feasibility study for supplying commercial power to customers in space through an orbiting utility (top right of drawing).

Electricity costs were highest last year in New York City

WASHINGTON, D.C.—Residents of New York City paid more for their electricity last winter than anyone else, according to a nationwide survey conducted by the National Association of Regulatory Utility Commissioners (NARUC).

In its seventh winter residential electric bill survey, NARUC said the nationwide average cost of electricity is 8.02 cents per kilowatt-hour (kWh). In New York, residents paid 15.35 cents per kWh. The least expensive service territory was Lewiston, Idaho where customers paid about 3.5 cents per kWh.

The survey found that typical residential electric bills varied by over 450 percent depending on the service area in which the consumer is located.

It compares bills of the 194 largest service territories of the major investor-owned electric utilities. NARUC looked at the bills for residential electric service for the months of December 1984 and January and February of this year.

Other high bills were paid by residents of Hilo, Hawaii (14.25 cents); Kahului, Hawaii (14.00 cents); and Long Beach, New York (13.53 cents).

Some of the lowest bills in the country were found in Spokane, Washington (3.63 cents); Kalispell, Montana (3.76 cents); and Ontario, Oregon (3.85 cents).

NARUC reports that its survey shows that residential bills have increased approximately 4.56 percent over those bills reported in last year's survey. During the same period, said NARUC, the Consumer Price Index took a 4.0 percent jump.

Regional analysis

A regional analysis of electric bills showed that rates in the Northeast and Pacific regions were the most expensive, while those of the Northwest and Rocky Mountain regions were least expensive.

Copies of the 211-pp. report may be obtained from NARUC, P.O. Box 684, Washington, D.C. 20044, for $15.50 per copy.

10 MOST EXPENSIVE SERVICE TERRITORIES (1984-85)

Company	City	State	Total bill	Avg. cost cents/kWh	Nation rank
Consolidated Edison Co. of N.Y.	New York	New York	$230.23	15.35	1
Hawaii Electric Light Co.	Hilo	Hawaii	$213.68	14.25	2
Maui Electric Co.	Kahului	Hawaii	$210.01	14.00	3
Long Island Lighting Co.	Long Beach	New York	$202.99	13.53	4
Orange & Rockland Utilities, Inc.	Middletown	New York	$199.87	13.32	5
San Diego Gas & Electric Co.	San Diego	California	$191.07	12.74	6
The United Illuminating Co.	Bridgeport	Connecticut	$180.86	12.04	7
Central Hudson Gas & Elec. Corp.	Poughkeepsie	New York	$177.23	11.82	8
Jersey Central Power & Light Co.	Dover	New Jersey	$176.38	11.69	9
Rockland Elec. Co.	Ramsey	New Jersey	$171.36	11.42	10

10 LEAST EXPENSIVE SERVICE TERRITORIES (1984-85)

Company	City	State	Total bill	Avg. cost cents/kWh	Nation rank
Washington Water Power Company	Lewiston	Idaho	$50.30	3.35	194
Washington Water Power Company	Spokane	Washington	$54.40	3.63	193
Pacific Power & Light Co.	Kalispell	Montana	$56.40	3.76	192
Idaho Power Co.	Ontario	Oregon	$57.78	3.85	191
Idaho Power Co.	Boise	Idaho	$59.70	3.98	190
Pacific Power & Light Company	Yakima	Washington	$60.36	4.06	189
CP National Corp.	La Grande	Oregon	$65.85	4.39	188
Pacific Power & Light Company	Portland	Oregon	$68.73	4.58	187
Puget Sound Power & Light Co.	Bellevue	Washington	$71.09	4.74	186
Portland General Elec. Co.	Portland	Oregon	$71.93	4.80	185

Commonwealth Edison announces new austerity program

CHICAGO—As part of a new austerity program, Commonwealth Edison said it has frozen some management wages and is re-evaluating its ambitious nuclear construction program.

Edison Chairman and President James J. O'Connor said the program is designed to offset reduced revenues which resulted from one of northern Illinois' coolest summers and a continuing sluggish economy.

John Hogan, Edison spokesman, said kilowatthour sales were "flat as a pancake" this past summer. He pointed out that kWh-sales to large industrial and commercial customers were down 2.8 percent over the last six months.

The salary freeze is estimated to affect approximately half of the utility's 6,500 management work force.

Hogan said lower levels of management can expect "minimum salary increases".

Part of the program is an evaluation of the company's construction. O'Connor mentioned that Edison will examine the economics of continuing to operate some of its fossil plants and whether it should accelerate, delay or stop any of its generating station construction.

Edison is currently constructing the two-unit Braidwood nuclear plant and the two-unit Byron nuclear station.

One scenario being explored, said Hogan, is hiring another contractor to speed-up work at Braidwood-2.

Although Hogan said the utility is not anticipating any layoffs at this time, he said they are a possibility. No plants have been identified by Edison for closing, but Hogan pointed out that the utility has one oil-fired plant that is costly to operate.

According to O'Connor, the program also is being implemented in anticipation of changes in federal tax laws.

Loss of the investment tax credit will result in a loss of between $820-$960 million between 1986 and 1988 for Edison, said Hogan.

The austerity program is no cause for concern, assured Hogan. "These are just some corrections that needed to be taken," he stated.

Details of the austerity plan should be finalized in December, Hogan said.